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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,896	11/13/2003	Geoffrey Egnal	37112-191810	6101

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EXAMINER
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CZEKAJ, DAVID J

ART UNIT	PAPER NUMBER
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2621

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07/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/705,896	<b>Applicant(s)</b> EGNAL ET AL.	
	<b>Examiner</b> DAVID CZEKAJ	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 18,21,27,29,30,32-34,38-41 and 63-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18,21,27,29,30,32-34,38-41 and 63-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 18 and 64 have been considered but are moot in view of the new ground(s) of rejection.

On page 16, applicant argues that there is no disclosure in Cohen of how the confidence value is determined. While the applicant's points are understood, the examiner respectfully disagrees. The examiner notes the claim language does not recite the specifics of the computation of the confidence value. Hence, the confidence value taught by Cohen in column 6, lines 15-24, teaches the broad limitations as claimed. Therefore the rejection has been maintained.

On page 16, applicant argues that Liu fails to disclose the camera motion, warping module, and subtraction module. While the applicant's points are understood, the examiner respectfully disagrees. Liu discloses in column 7, lines 5-11, using algorithms to compute camera motion. Liu further discloses in figure 3 and column 5 line 65 – column 6, line 5, performing a union operation then subtraction operation. By performing a union operation, Liu is warping images for direct comparison. Therefore the rejection has been maintained.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 18, 21, 27, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen-Solal et al. (7173650), (hereinafter referred to as "Cohen") in view of Liang et al. (6678413), (hereinafter referred to as "Liang") in further view of Seeley et al. (6069655), (hereinafter referred to as "Seeley").

Regarding claim 18, Cohen discloses an apparatus that relates to video tracking systems (Cohen: column 1, lines 8-10). This apparatus comprises "operating a sensing unit in the first mode to scan for targets" (Cohen: column 6, lines 1-12, wherein the first mode is the mode in which the user designates the target), "upon detecting a target, operating the sensing unit in the second mode to track the target and perform at least one of: panning, tilting, and zooming" (Cohen: column 5, lines 9-14; column 6, lines 15-25, wherein the second mode is the automatic mode), and "processing image data from the sensing unit in the second mode to track the target by sending one of: pan commands to the sensing unit" (Cohen: column 5, lines 9-14). However, this apparatus lacks processing the video to detect interesting targets and obtaining higher quality imagery as claimed. Liang teaches that prior art object recognition systems are not fully automated and thus time consuming (Liang: column 3, lines 1-7). To help alleviate this problem, Liang discloses "processing image data to detect the presence of an interesting target" (Liang: column 8, lines 25-35, wherein the detection is the object identification). Seeley teaches that upon detecting an alarm, obtaining higher quality imagery of the target that that obtained by

operating the sensing unit in the first mode (Seeley: column 4, lines 40-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Cohen and add the processing taught by Liang and Seeley in order to obtain an apparatus that helps reduce the time necessary to detect objects.

Regarding claim 21, Liang discloses “processing the image data to detect a target by at least one of: classifying the target by target type into categories” (Liang: column 8, lines 25-35, wherein the categories are the classifications).

Regarding claim 27, Cohen discloses “providing summary statistics including one of: the targets velocity” (Cohen: column 5, lines 9-14. By keeping the target in the center of the box, Cohen is determining the targets velocity).

Regarding claim 72, note the examiners rejection for claim 18.

2. Claims 29-30, 32-33, 38-39, and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen-Solal et al. (7173650), (hereinafter referred to as “Cohen”) in view of Liang et al. (6678413), (hereinafter referred to as “Liang”) in further view of Seeley et al. (6069655), (hereinafter referred to as “Seeley”) in further view of Liu et al. (7020305), (hereinafter referred to as “Liu”).

Regarding claim 29, note the examiners rejection for claim 18, and in addition, claim 29 differs from claim 18 in that claim 29 further requires the specifics of the processing. Liu teaches there is a need in the art to improve head motion estimation between two images (Liu: column 2, lines 10-15). To help alleviate this problem, Liu discloses "segmenting the target from the

background" (Liu: column 5, lines 10-23, wherein the segmenting is the image subtraction), "calculating color histogram information and an edge image and using template matching to integrate the results to obtain an estimate" (Liu: column 6, lines 20-29). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the processing taught by Liu in order to help improve motion estimation techniques.

Regarding claim 30, note the examiners rejection for claim 27.

Regarding claim 32, Cohen discloses "monitoring the length of time the system has been in the second mode" (Cohen: column 6, lines 37-42, wherein the time is the period. By monitoring the period of difficulty, Cohen is monitoring the length of time in the automatic mode), "monitoring the summary statistics and external stimuli indicating the system should switch to the first mode" (Cohen: figure 2; column 5, lines 55-60; column 6, lines 1-60), and "if any conditions are met, switching back to the first mode" (Cohen: column 6, lines 30-35, wherein the system is switched back into the manual mode).

Regarding claim 33, although not disclosed, it would have been obvious to determine the best shot and deliver the best shot to the user (Official Notice). Doing so would have been obvious in order to better help determine the identity of the target.

Regarding claim 38, Cohen in view of Liu disclose "performing corner detection, searching for matches for interesting points, assigning confidence values, employing a robust averaging method, warping a second image towards

a first image, and subtracting the warped image from the current image to determine which pixels have moved” (Cohen: column 6, lines 15-24; Liu: figures 5-6; column 6, lines 20-29).

Regarding claims 39, although not disclosed, it would have been obvious to perform the processing on reduced and full resolution images (Official Notice). Doing so would have been obvious in order to help reduce processing time by working with reduced resolution images when possible.

Regarding claim 41, note the examiners rejection for claim 38.

3. Claims 34, 40, 63-66, and 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen-Solal et al. (7173650), (hereinafter referred to as “Cohen”) in view of Liang et al. (6678413), (hereinafter referred to as “Liang”) in further view of Seeley et al. (6069655), (hereinafter referred to as “Seeley”) in further view of Loveland (6437819).

Regarding claim 34, note the examiners rejection for claim 18, and in addition, claim 34 differs from claim 18 in that claim 34 further requires a second sensing unit and information about the last known position of the target.

Loveland teaches that there is a need in the art to provide a multiple camera tracking system (Loveland: column 2, lines 30-34). To help alleviate this problem, Loveland discloses “a second sensing unit” (Loveland: figures 1-4) and “receiving information about a last known position of the target” (Loveland: column 4, lines 38-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the

camera system taught by Loveland in order to better help track objects by having multiple cameras.

Regarding claim 40, Loveland discloses "using three-frame differencing" (Loveland: figure 7, wherein each iteration receives a frame and after the iterations, 3 frames will be used).

Regarding claim 63, Loveland discloses "providing position information to another sensing unit" (Loveland: figure 7; column 4, lines 40-50).

Regarding claims 64-66, note the examiners rejections for claims 18, 21, and 27.

Regarding claims 70-71, note the examiners rejection for claims 33-34.

4. Claims 67-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen-Solal et al. (7173650), (hereinafter referred to as "Cohen") in view of Liang et al. (6678413), (hereinafter referred to as "Liang") in further view of Seeley et al. (6069655), (hereinafter referred to as "Seeley") in further view of Loveland (6437819) in further view of Tserng (6570608).

Regarding claim 67, note the examiners rejection for claim 64, and in addition, claim 67 differs from claim 64 in that claim 67 further requires the use of blobs. Tserng teaches that blobs are groups of connected pixels which represent changes between two video images (Tserng: column 4, lines 7-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the blobs taught by Tserng in order to better help track objects by grouping like pixels.



Regarding claims 68-69, note the examiners rejection for claims 27 and 32.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CZEKAJ whose telephone number is (571)272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dave Czekaj/  
Primary Examiner, Art Unit 2621